MCBSF
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McCORMICK & BAXTER
CREOSOTING CO.

Mailing address:
P.O. Box 3048
Portland, Oregon 97208

Location:
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Portland, Oregon 97203
(503) 286-8394 Telex 36-0955

WOOD DESERVES PRESERVING

October 23, 1984

Mr. Peter K. Ressler, Environmental Analyst
Northwest Region
Department of Environmental Quality
P.O. Box 1760
Portland, Oregon 97207

Dear Mr. Ressler:

Subject: HW-McCormick & Baxter
Order No. 009020603
Multnomah County

The following is a status report of McCormick & Baxter's efforts to assess the Portland plant's potential environmental impact on surface and groundwater quality. In addition, it summarizes additional programs initiated at the plant to further reduce the potential release of wood preservative constituents to the environment.

GROUNDWATER AND SOIL ASSESSMENT

Attached is a copy of a technical memorandum prepared by our consultant, CH2M HILL, that details the results of the current soil boring and sampling, well installation, and groundwater sampling program. This preliminary report does not include the chemical analysis of the groundwater samples and selected soil samples because the last soil borings were recently completed (October 9, 1984). Monitoring wells MW-L and MW-M were developed on October 11, 1984. Groundwater samples for these wells are scheduled to be collected the week of October 29, 1984. Laboratory analysis of the 22 groundwater samples and approximately 39 selected soil samples is scheduled to be completed by the end of November.

A summary of CH2M HILL's visual observations of the soil borings and collected groundwater samples for MW-E through MW-K was previously provided in our August 31, 1984, report. Based on our consultant's inspection (visual and smell) of the additional six borings to investigate the presence of wood preservative constituents associated with the tank farm,

preliminary indications are that a defined significant plume has not reached the Willamette River.

STORMWATER RUNOFF

The stormwater outfall monitoring program began in mid-October and involves continuously measuring and recording surface water drainage from the wood preserving and treatment areas. Weekly grab samples of the stormwater will be collected and analyzed for parameters previously agreed upon in our April 3, 1984, and May 29, 1984, submittals to DEQ. This sampling program is planned to continue through spring 1985.

SITE MAP

An enclosed site map has been prepared. It includes major buildings, process facilities, storage areas, groundwater monitoring wells, soil boreholes, nonpotable supply wells, and surface water outfall locations.

CORROSION ASSESSMENT

In July 1984, McCormick & Baxter initiated a program to have CH2M HILL perform a corrosion assessment of all major tanks. The purpose of this program is to determine the extent of corrosion in each tank, recommend repair work required for a minimum additional 10-year life, and inspect the tanks following the repairs. To date, the inground settling tanks and above-ground black oil tank No. 6 have been cleaned out and inspected. The tanks were generally in good condition; no holes or cracks were found, only minor corrosion. To extend the life of the settlers, additional 5/16-inch steel plate was welded over the present floor, and from the floor to 14 inches up on the exterior walls. All internal surfaces were coated with a coal tar epoxy.

The weld holding tank No. 6 bottom to the shell was pitted in several locations and required rewelding. The tank bottom was pitted in only a few places and these pits were also repaired by welding.

The remaining tanks will also be cleaned out, inspected, and repairs made as necessary. It is anticipated that this program will be completed by September 1985.

TANK FARM CONCRETE SLAB

A concrete slab will be constructed inside the tank farm to contain any chemical spills and leaks and prevent their release to the environment. Plans and specifications for the tank farm slab are provided in the enclosed drawing. The concrete slab will be constructed following the clean out and inspection of tank Nos. 1, 2, and 5, and the relocation of selected piping. We plan to have construction completed by July 1, 1985.

ENVIRONMENTAL INSPECTIONS AND REVIEW MEETING

The plant has initiated weekly environmental meetings which include a review of observations noted on the daily and weekly environmental inspection logs and status reports on items requiring corrective action. Copies of blank inspection reports are enclosed for your information.

FUTURE REPORTING

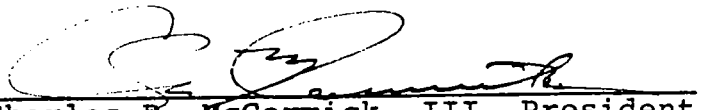
By January 7, 1985, another status report will be submitted to the DEQ. It will include the results of the laboratory analysis of collected groundwater and selected soil samples through October 1984, a preliminary base map showing water quality data, groundwater contours and direction of groundwater flow, and an update on our stormwater monitoring, tank inspection, and concrete slab programs.

In addition, we will continue to keep the DEQ advised of our progress through telephone conversations and meetings.

Should you have any questions regarding our ongoing site investigation, please give me a call.

Very truly yours,

McCORMICK & BAXTER CREOSOTING CO.

By 
Charles R. McCormick, III, President

Enclosures
cc: Jack Payne/CH2M HILL

CH2M HILL

TECHNICAL MEMORANDUM

TO: McCormick & Baxter Creosoting Co.

FROM: CH2M HILL NORTHWEST

DATE: October 23, 1984

PROJECT: P17774.A0

RE: Results of Additional Soil Boring Groundwater Monitoring Program at McCormick & Baxter Creosoting Co., Portland, Oregon

Thirteen soil borings were drilled and nine were completed as groundwater monitoring wells at the McCormick & Baxter Creosoting Co. to determine the presence of wood preservative constituents in the soil and groundwater resulting from past and/or present practices at the plant. This memorandum details the results of soil boring and sampling, well installation, and groundwater sampling. The wells were drilled and installed by Geo-Tech Explorations of Beaverton, Oregon, under the field observation of a CH2M HILL hydrogeologist. The enclosed site map (Figure 1) shows the locations of the nine new monitoring wells, the four soil boreholes, and the four preexisting wells. Each new well was located on the plantsite with a specific purpose in mind:

MW-E: Located at a former waste dump area believed to be the source of wood preservative constituents found in MW-D, and to determine the actual depth in the aquifer.

MW-F: To gain information on the upriver boundary of the plume believed to be emanating from the former waste dump area.

MW-G: To gain information on the near-river condition of the same plume, and to potentially provide a replacement for MW-D, which may be useful for long-term monitoring.

MW-H: To determine whether No. 1 retort could be a source of wood preservative constituents in the soil and groundwater.

MW-I, MW-L, MW-M, and Boreholes 1-4:

To determine whether spills within the tank farm area have percolated into the soils and groundwater.

MW-J: To determine whether the old cellon wash skid area is a source of wood preservative constituents in the soil and groundwater.

MW-K: To determine whether the treated pole storage area is a source of wood preservative constituents in the soil and groundwater.

SOIL BORING AND SAMPLING

The thirteen soil borings were completed with a 3-3/4-inch (ID) hollow-stem auger. The auger and drill rods were thoroughly steam-cleaned between borings to prevent cross-contamination between individual boreholes. Soil samples were obtained with 2-inch, split-spoon drive samplers. These samplers were driven 18 inches ahead of the auger bit to take undisturbed soil samples for visual logging purposes and potential future chemical analysis. Continuous drive samples were taken at the ten boreholes at or near the former waste dump (MW-E, MW-F, MW-G). Split spoon samples were taken at 2-1/2-foot intervals at the other four boreholes. All soil samples were inspected and logged by the CH2M HILL hydrogeologist.

Soil samples were composited for each 5-foot interval and placed in methanol-rinsed 8-ounce glass jars with teflon-lined lids. Each split-spoon sampler was "decontaminated" after use. For relatively clean boreholes or portions of boreholes where gross contamination was not present, the decontamination procedure included a detergent wash followed by two clean water rinses, a methanol rinse, and a distilled water rinse. When gross contamination as a result of oil and/or creosote was encountered, the clean water rinses were followed by a solvent rinse sequence of toluene, methanol, and acetone.

The soil samples were packed on ice in coolers and shipped to the CH2M HILL Corvallis Environmental Laboratory, where they have been frozen pending selection of individual samples for chemical analysis. CH2M HILL chain-of-custody procedures were followed when samples changed hands.

MONITORING WELL CONSTRUCTION

The hollow-stem auger drilled a borehole that was approximately 8 inches in diameter. After the hole was drilled to final depth, the hollow stem was flushed with water using a rotary drill bit. The monitoring well assembly was then lowered into the hollow-stem auger. Wells MW-E through MW-K each have 20 feet of well screen with a 2-foot tailpipe section. MW-L has 30 feet of well screen and 17 feet of tailpipe. MW-M has 40 feet of well screen and 7 feet of tailpipe. Each well screen was made of Johnson 2-inch galvanized steel. The tailpipe and well casing are 2-inch, Schedule 40 galvanized steel pipe. All joints were joined by welding. The well screens are 20 slot (i.e., the slot width is 0.020 inch). Because the aquifer material encountered during drilling was finer-grained than anticipated and did not allow "open hole" drilling, a design change was made in the field to ensure that the monitoring wells would not eventually "silt up" by pulling formation sand into the well during sampling. With the exception of MW-I, where the formation stayed open to allow placement of a good sand pack around the screen slots, all of the monitoring well screens were wrapped with a polypropylene filter fabric. The fabric has a 4 percent (minimum) open area and an equivalent opening size of No. 70 to 100 U.S. Standard Sieve. The polypropylene fabric is nonreactive with creosote.

Each well screen was positioned so that 5 to 8 feet of the screen was above the water table at the time of installation. This was done to ensure that any substance floating on the water table surface would always enter the well regardless of seasonal static level changes. The screens were gravel-packed by pouring clean Monterey Sand into the annular space between the PVC casing and the hollow stem. As the auger was pulled up, the sand dropped out of the hollow stem to surround the screen. After the sand pack was installed to at least 3-1/2 feet above the top of the well screen, the annular space between the casing and hollow stem was filled with a cement grout-bentonite slurry. More grout was added as the remainder of the auger was pulled out of the hole to ensure that the entire annular space was sealed. The well heads were completed with locking steel caps anchored in concrete. The monitoring wells were developed by blowing compressed air through an air line lowered into the tailpipe below the well screen. In some wells, an additional conductor pipe was needed to get any return flow of water.

Figures 2 through 10 summarize the construction and soils at each of the nine monitoring wells and Figure 11 summarizes the soils at each of the four boreholes. Elevations for the tops of the well casings and protective casing are also provided in Figures 2 through 10.

The hollow-steam auger was thoroughly steam-cleaned after each well was finished to prevent cross-contamination between holes during construction.

GROUNDWATER SAMPLING AND ANALYSIS

Groundwater quality samples were collected from the seven new monitoring wells and the four older wells approximately one month after the wells were installed. Before sampling, static water levels were measured to within 0.01 foot using an electric water level sounder or a steel tape. Table 1 shows static water depths and elevations.

In order to obtain a representative groundwater sample, a specific volume of water was removed from each monitoring well before sampling. MW-A, MW-C, and MW-D were each purged of 5 times the volume of water contained in their casings before obtaining groundwater samples. The seven newly installed wells were each purged of about 2 times the volume of water contained in their well screens. These purge volumes were determined to be sufficient because the well development procedure removed relatively large quantities of water just 2 days before sampling. MW-B was not purged and sampled because the low static water level in this well prevented the sampling team from obtaining a sufficient volume of groundwater for chemical analysis. All purging and sampling were performed using a stainless steel bailer. The bailer was rinsed with methanol and distilled water after use in a "clean" (i.e., non-oily) well; a solvent sequence of toluene, methanol, and acetone was used to clean the bailer after use in wells exhibiting the presence of oil. The groundwater samples were packed on ice in a cooler and shipped to the CH2M HILL Corvallis laboratory on the same day that they were collected. As with the soil samples, chain-of-custody procedures were followed.

Monitoring wells MW-L and MW-M were completed on October 9, 1984 and are scheduled to be sampled during the week of October 29, 1984.

Table 1
STATIC WATER LEVEL DEPTHS AND ELEVATIONS
(ALL DEPTHS AND ELEVATIONS IN FEET)

Well	Elevation of Top of Well Casing	Static	
		Depth	Elevation
MW-A	36.41	21.63	14.78
MW-B	31.70	22.70	9.00
MW-C	35.65	15.12	20.53
MW-D	36.43	28.39	8.04
MW-E	37.58	29.26	8.32
MW-F	33.15	25.71	7.44
MW-G	34.30	26.64	7.66
MW-H	33.96	21.63	12.33
MW-I	32.73	21.19	11.54
MW-J	34.43	22.22	12.21
MW-K	35.51	22.76	12.75

The laboratory analysis has not been completed on all of the groundwater and selected soil samples. The analysis will be completed by the end of November, at which time this technical memorandum will be expanded to include the result of the analysis and an updated soil and groundwater assessment.

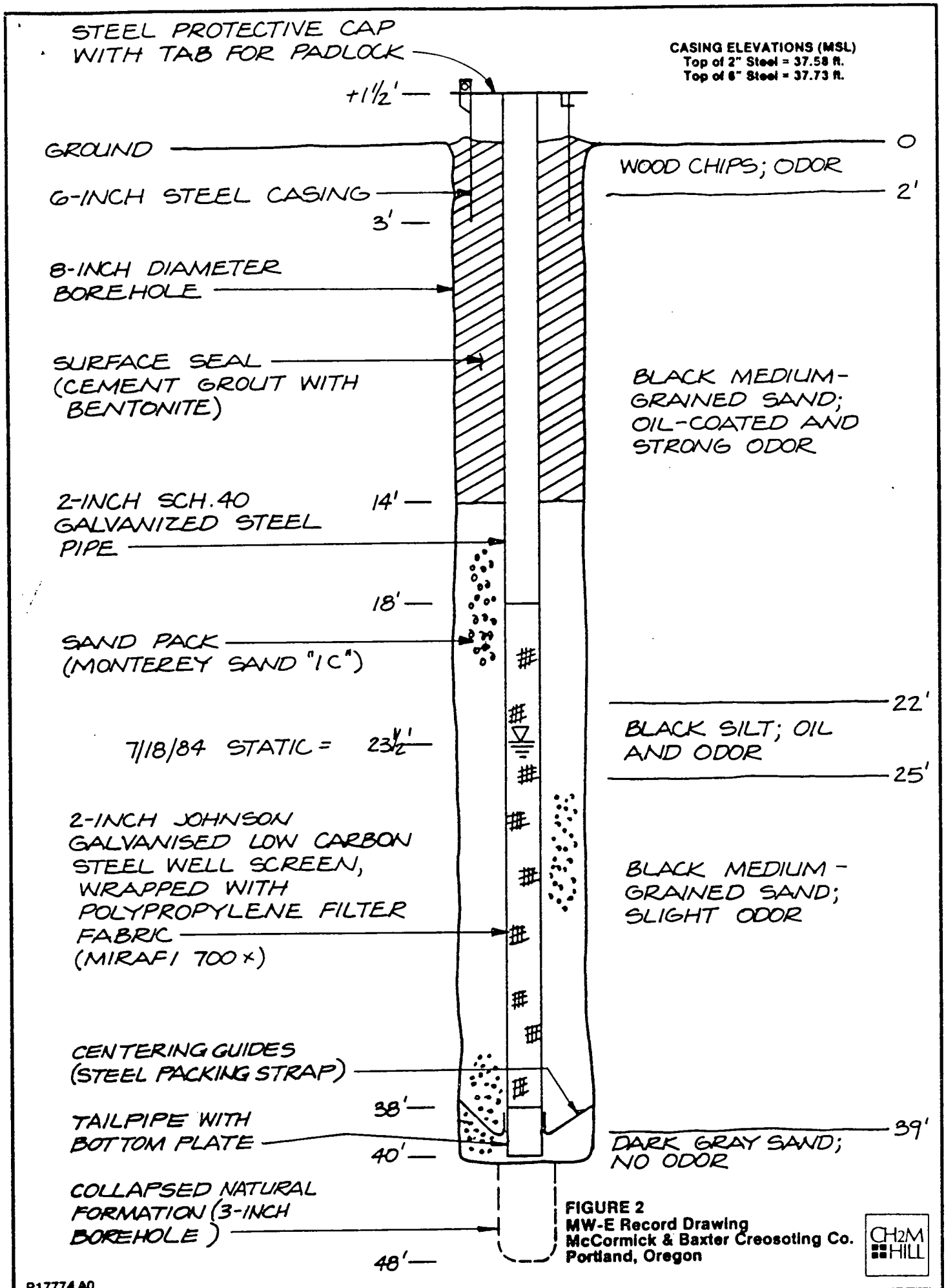


FIGURE 2
MW-E Record Drawing
McCormick & Baxter Creosoting Co.
Portland, Oregon

CH2M HILL

P17774.A0

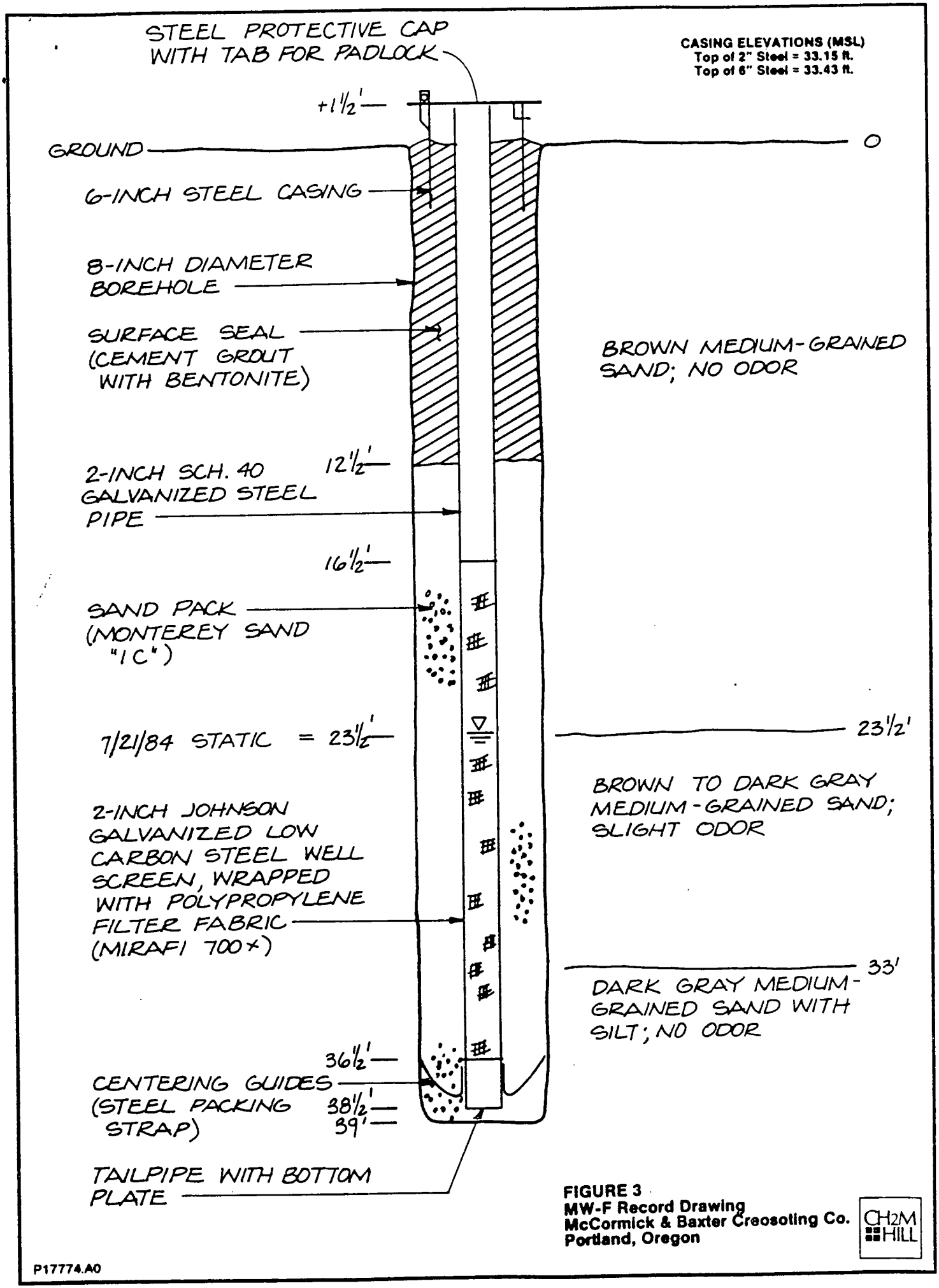


FIGURE 3
MW-F Record Drawing
McCormick & Baxter Creosoting Co.
Portland, Oregon

CH2M HILL

P17774.A0

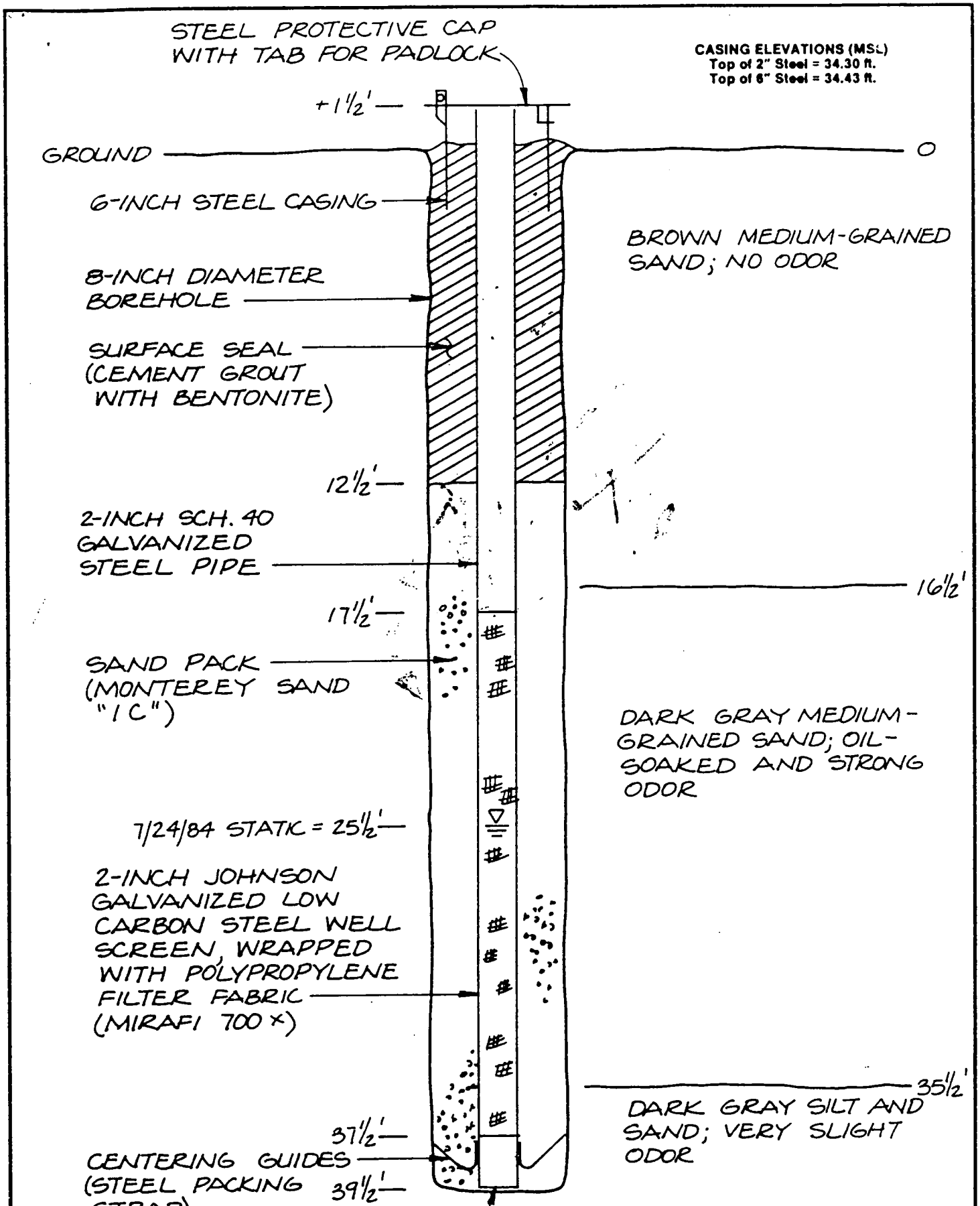


FIGURE 4
MW-G Record Drawing
McCormick & Baxter Creosoting Co.
Portland, Oregon

CH2M HILL

P17774.A0

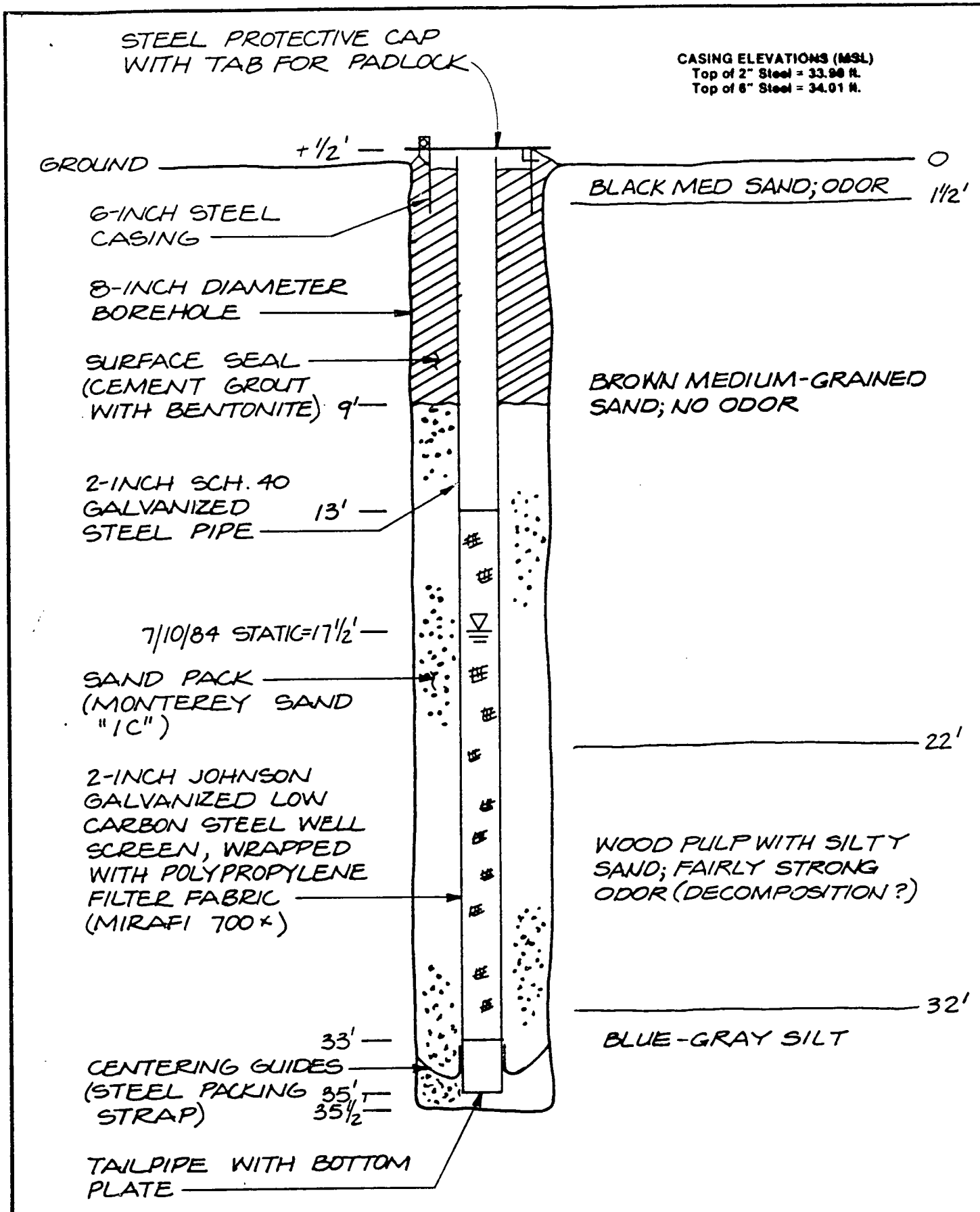


FIGURE 5
MW-H Record Drawing
McCormick & Baxter Creosoting Co.
Portland, Oregon

CH2M HILL

P17774.A0

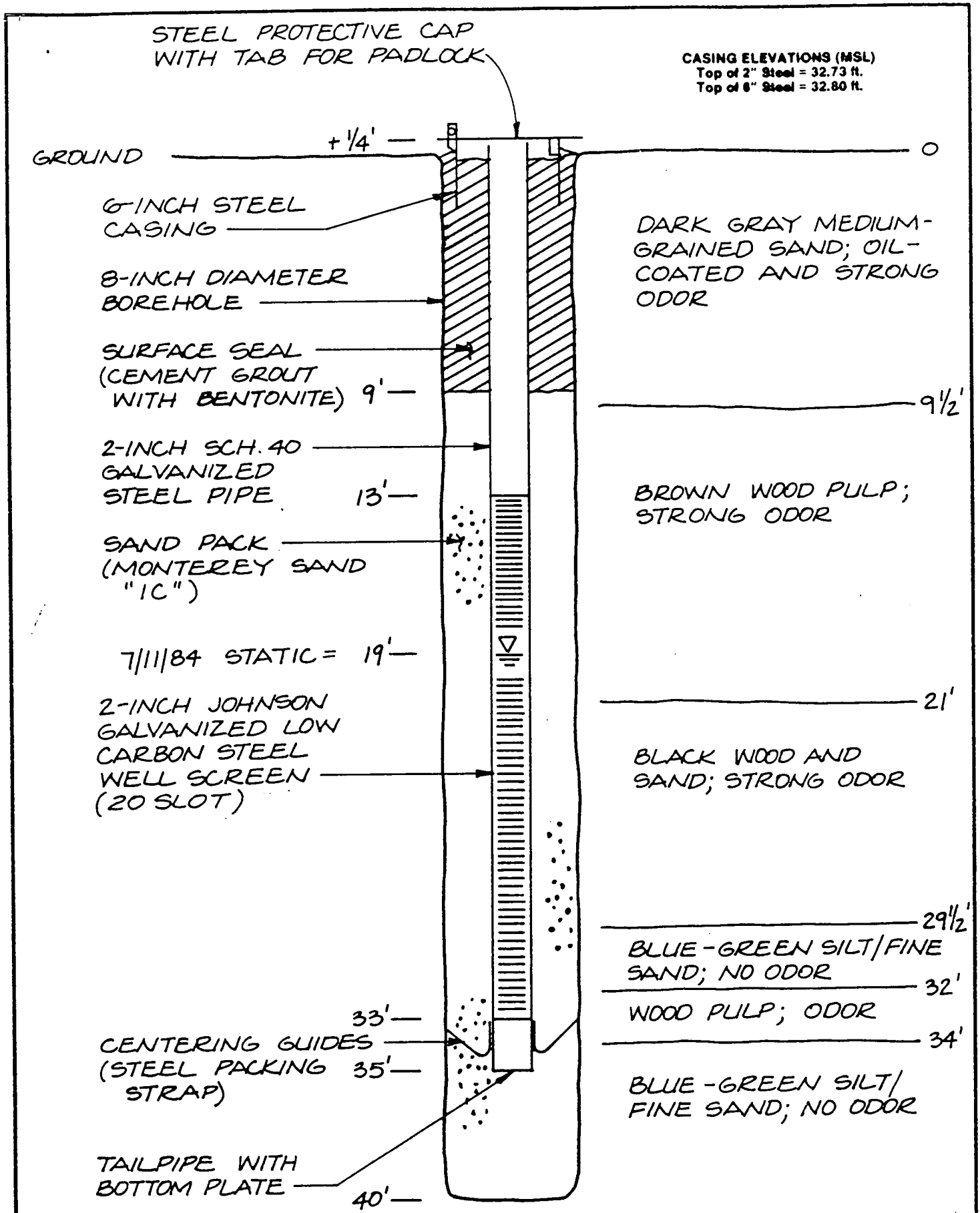


FIGURE 6
MW-1 Record Drawing
McCormick & Baxter Creosoting Co.
Portland, Oregon

CH2M HILL

P17774.A0

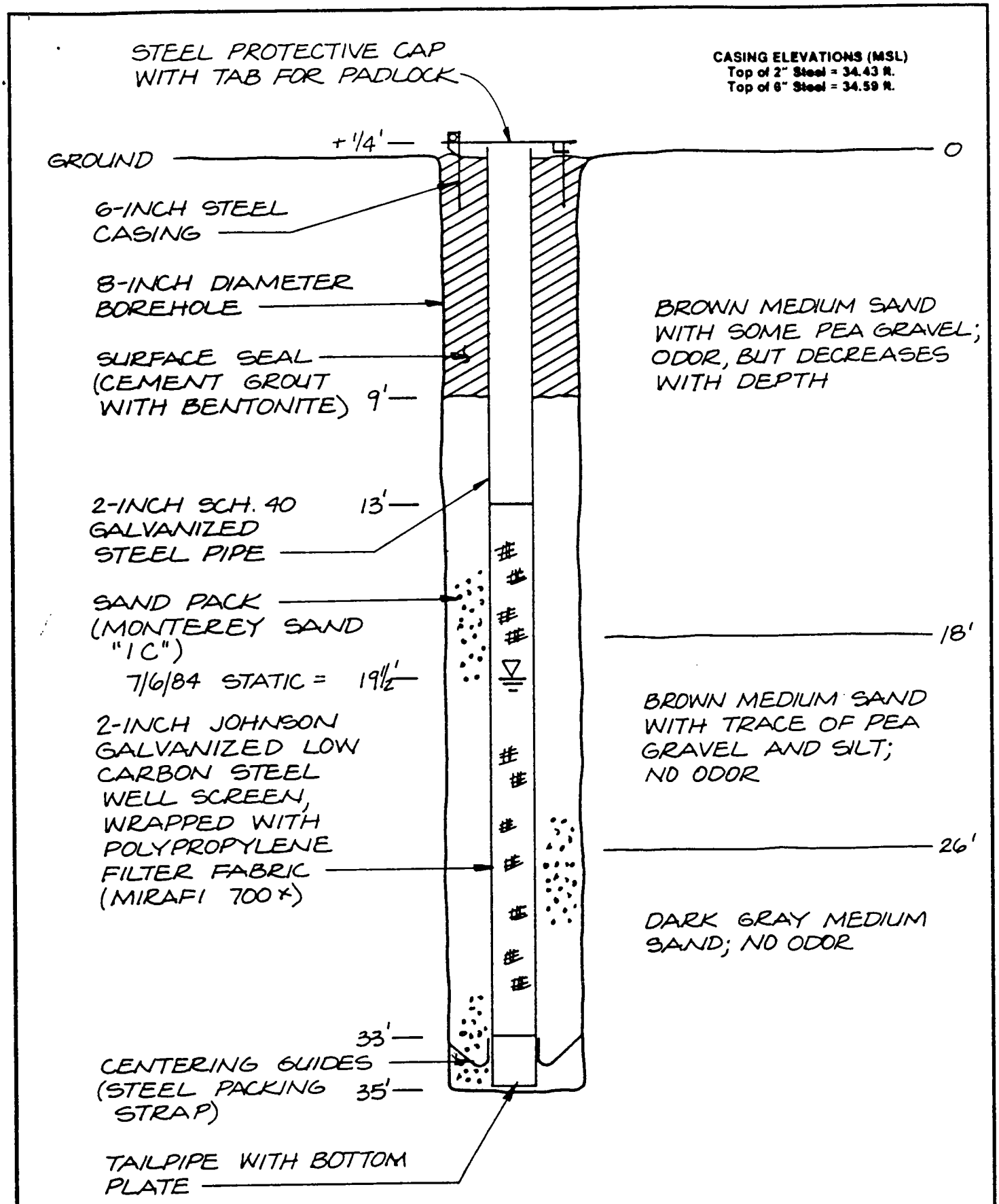


FIGURE 7
MW-J Record Drawing
McCormick & Baxter Creosoting Co.
Portland, Oregon

CH2M HILL

P17774.A0

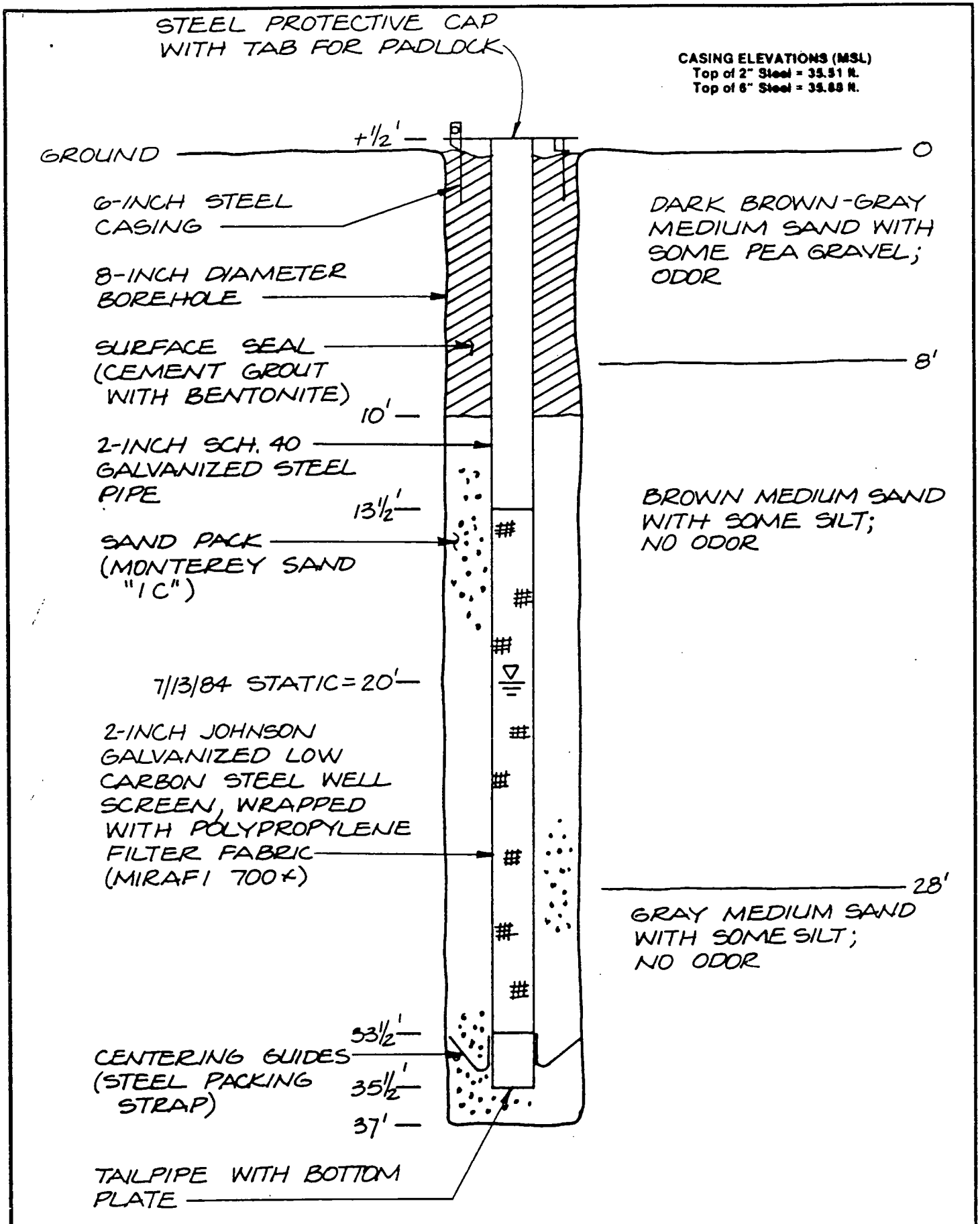


FIGURE 8
MW-K Record Drawing
McCormick & Baxter Creosoting Co.
Portland, Oregon

CH2M HILL

P17774.A0

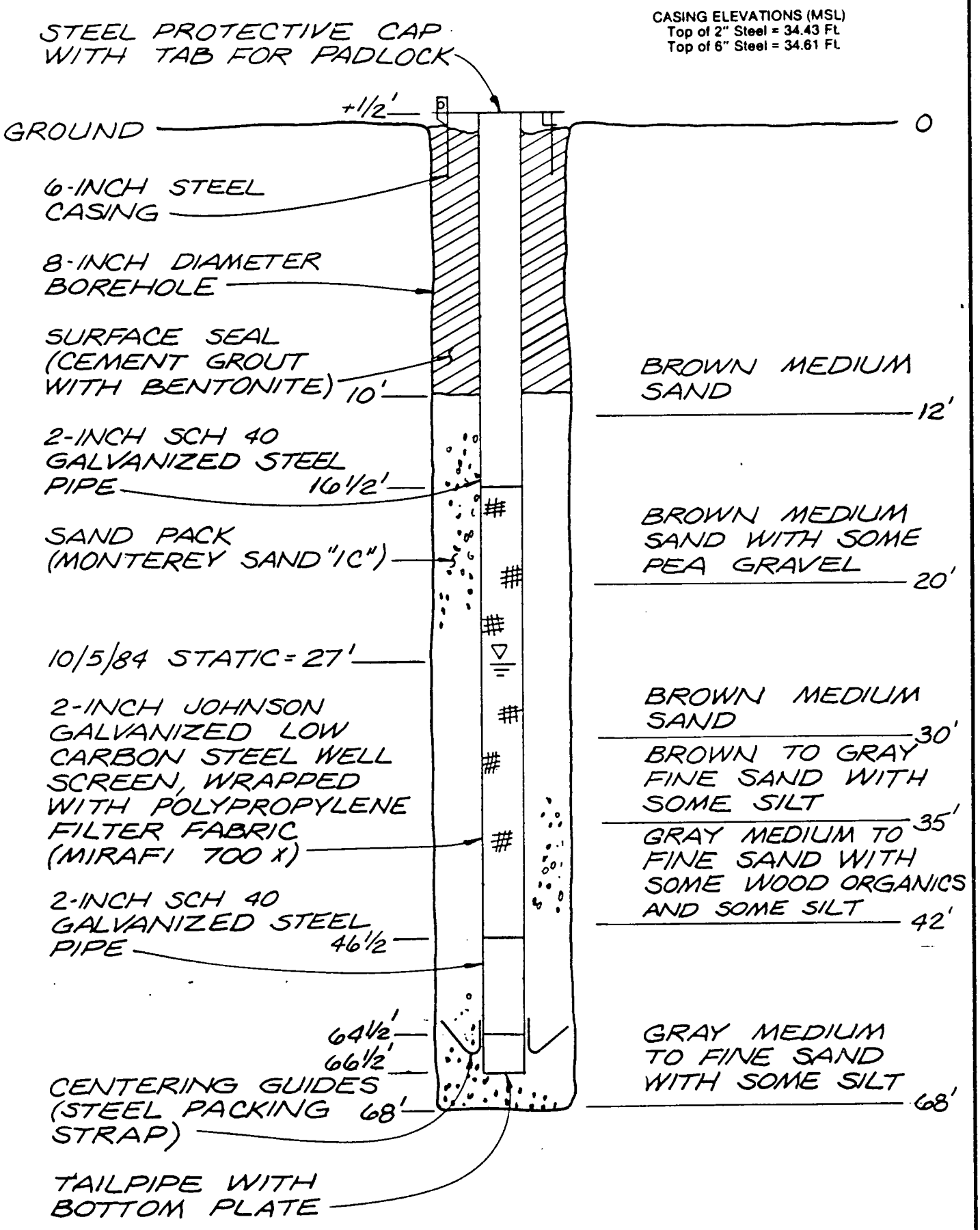


FIGURE 9
MW-L Record Drawing
McCormick & Baxter Creosoting Co.
Portland, Oregon

CH2M HILL

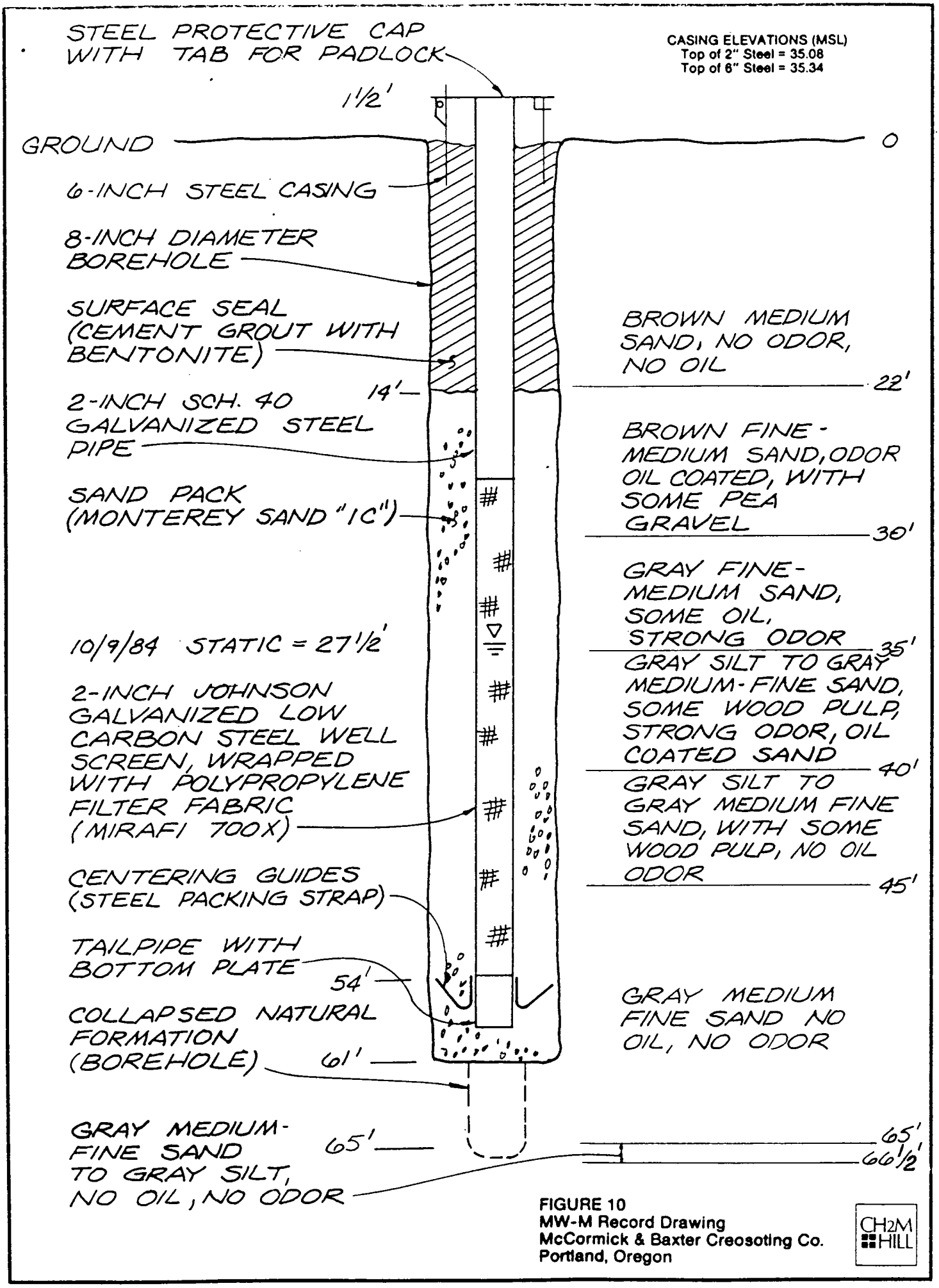


FIGURE 10
MW-M Record Drawing
McCormick & Baxter Creosoting Co.
Portland, Oregon

CH2M HILL

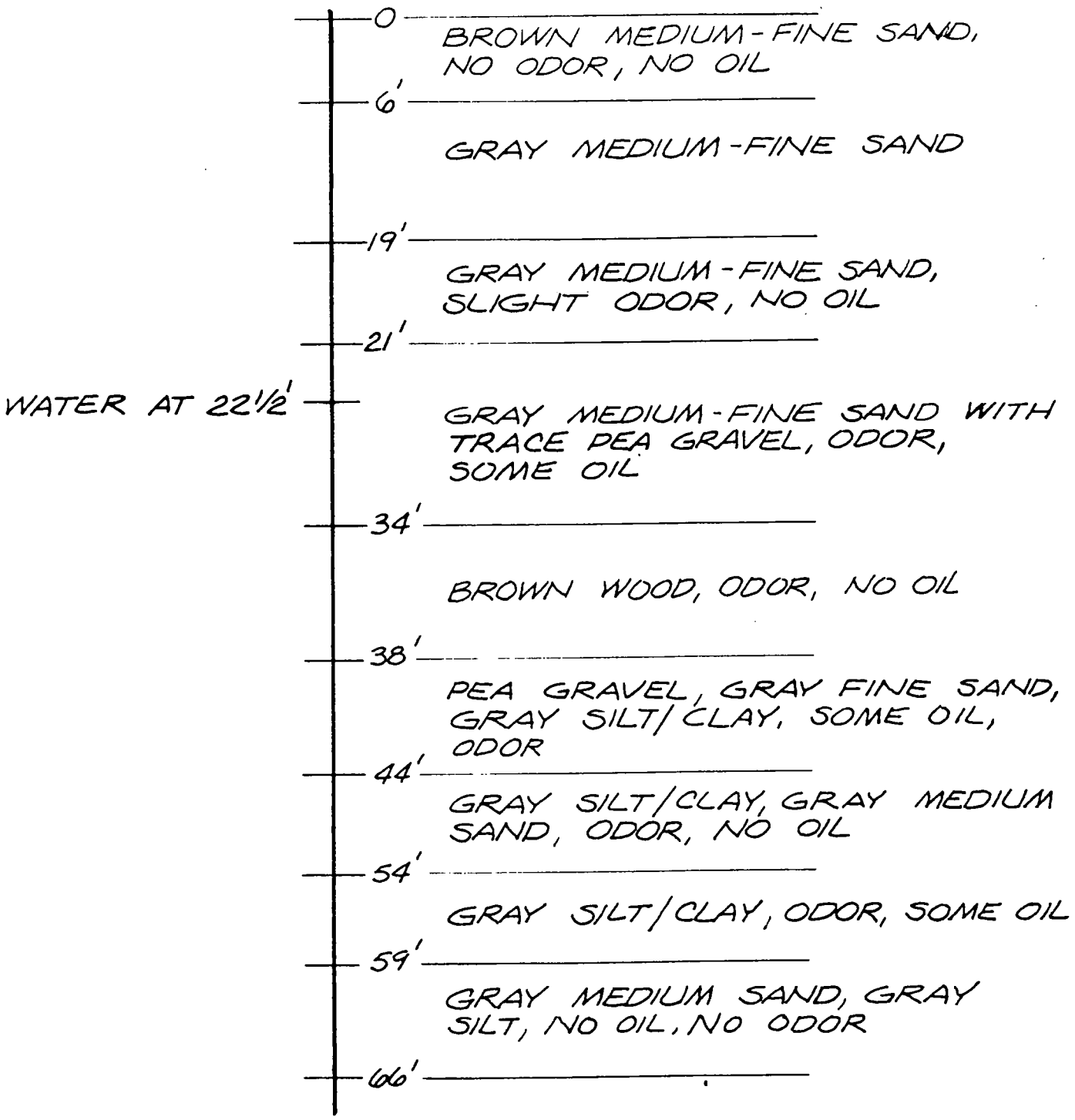


FIGURE 11
Borehole 1
McCormick & Baxter Creosoting Co.
Portland, Oregon

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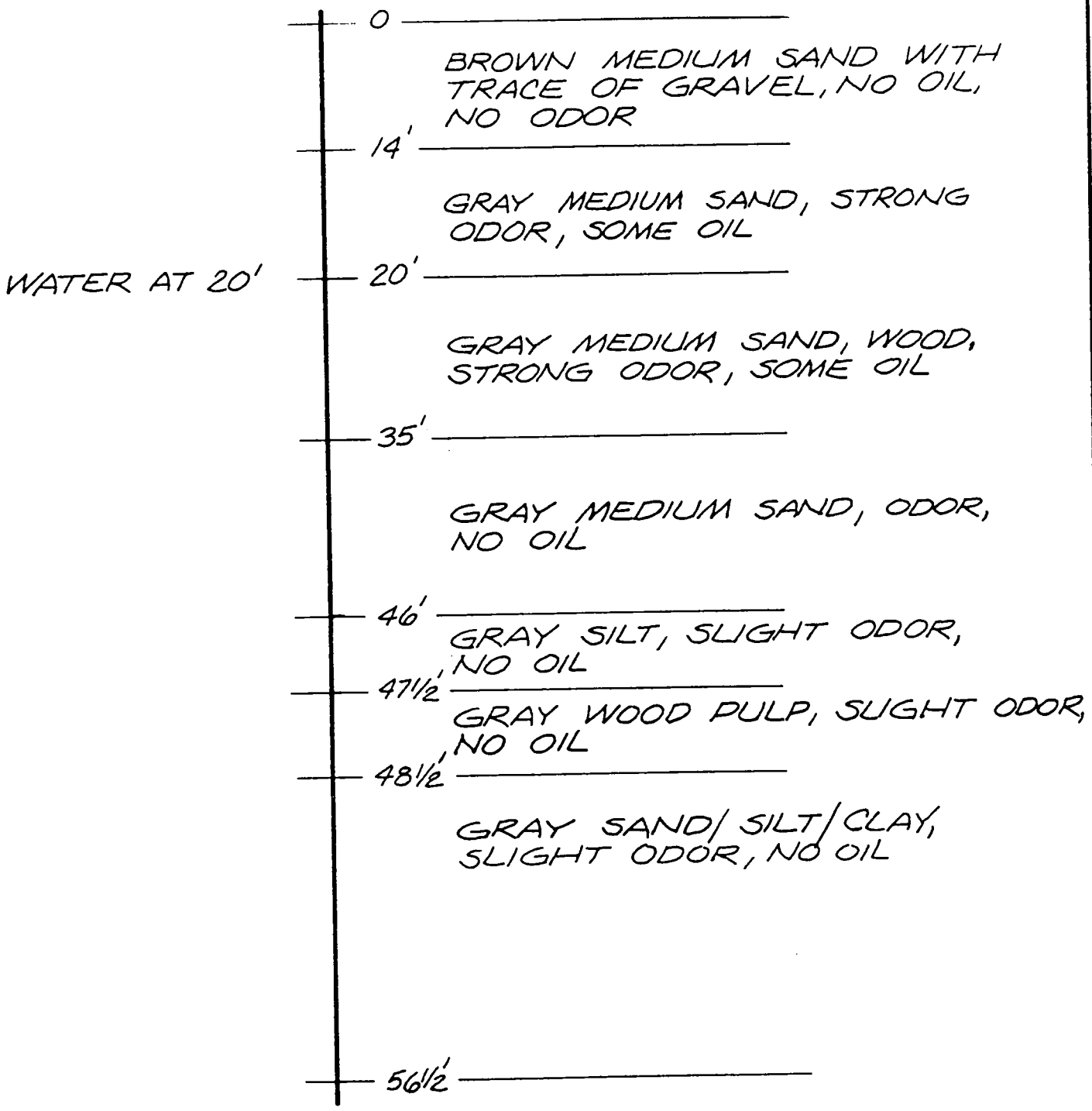

FIGURE 12
Borehole 2
McCormick & Baxter Creosoting Co.
Portland, Oregon

CH2M HILL

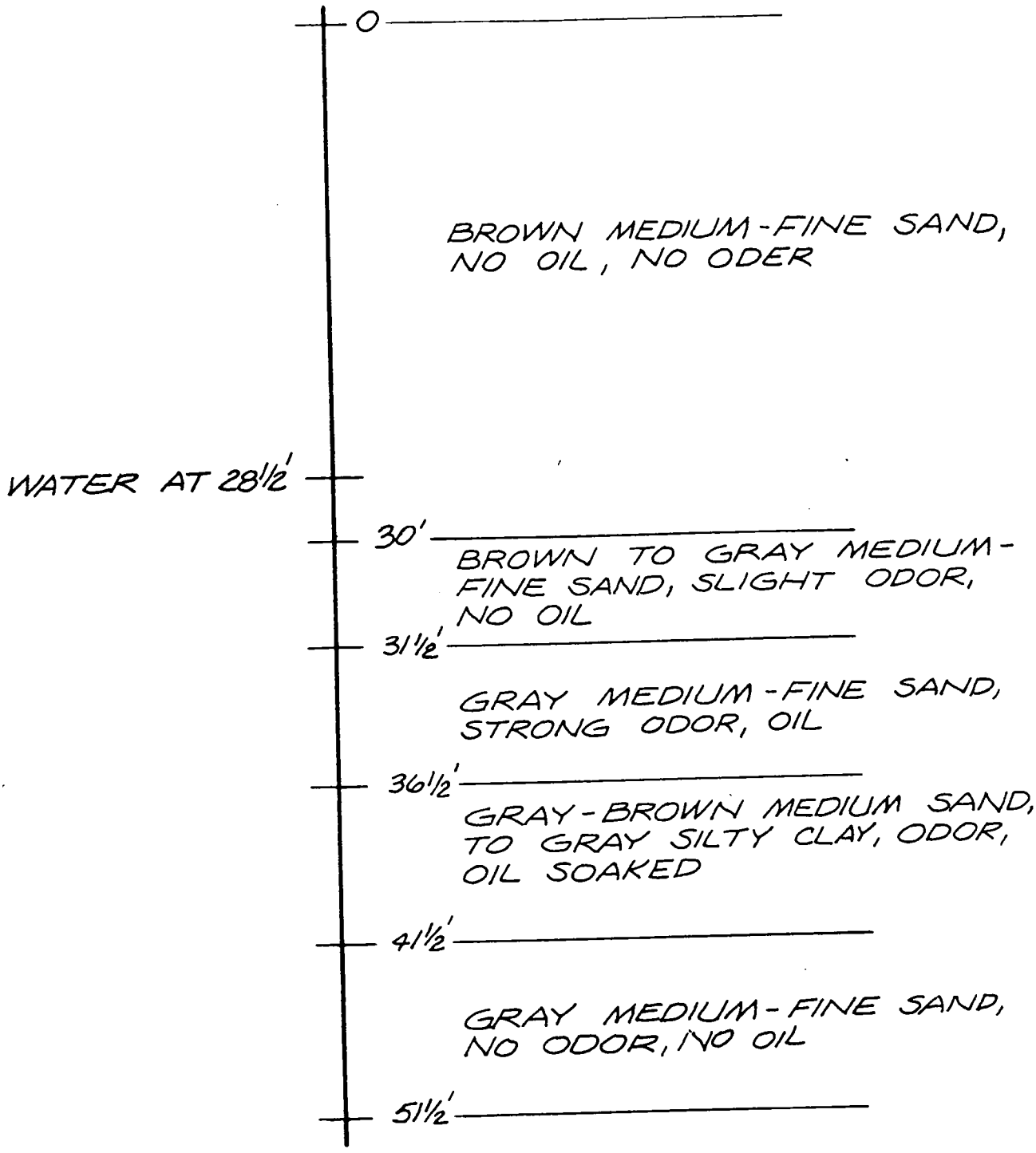

FIGURE 13
Borehole 3
McCormick & Baxter Creosoting Co.
Portland, Oregon

CH2M HILL

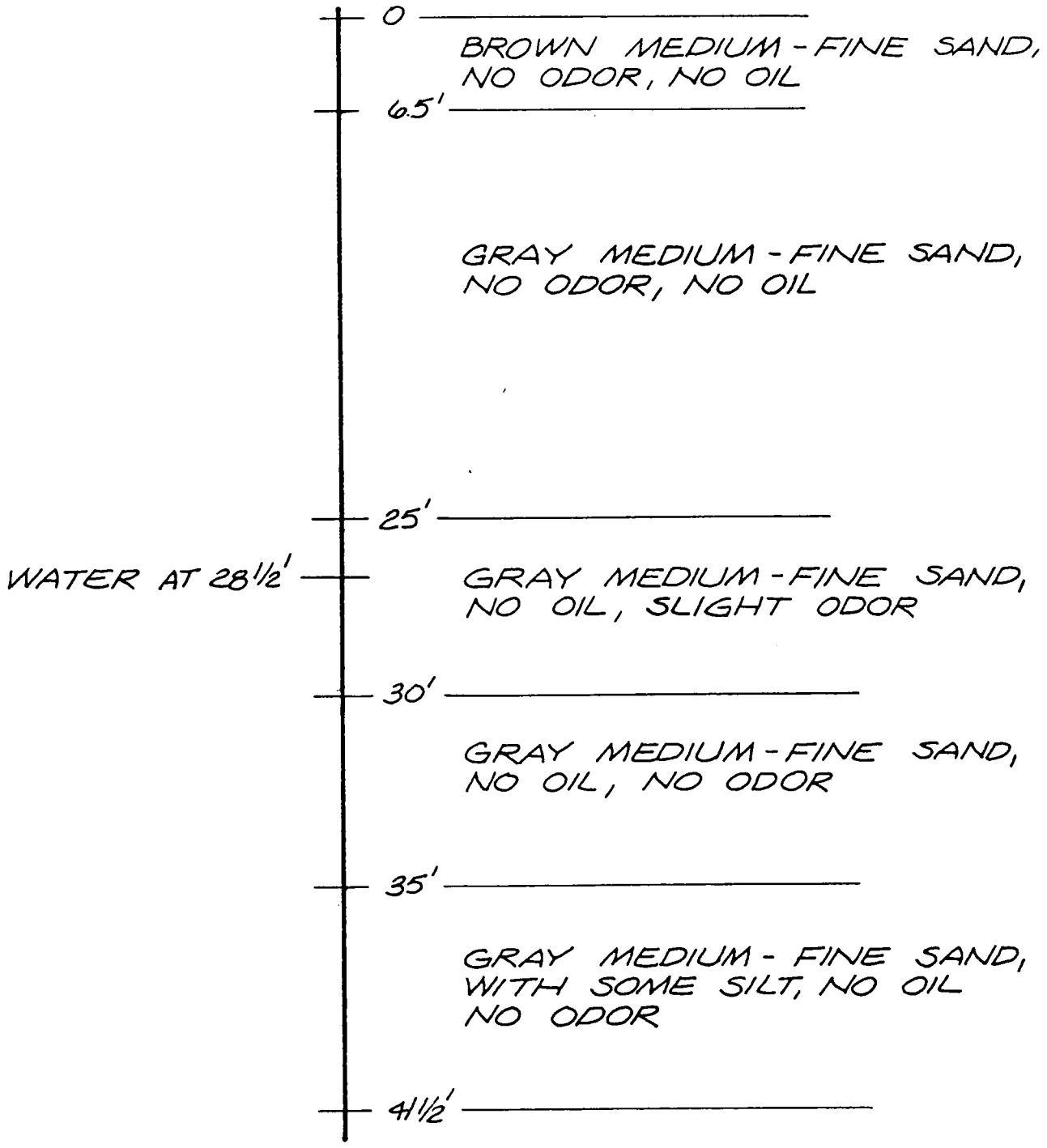

FIGURE 14
Borehole 4
McCormick & Baxter Creosoting Co.
Portland, Oregon

CH2M HILL

DAILY ENVIRONMENTAL INSPECTION LOG

McCormick & Baxter Creosoting Co.
Portland, Oregon

Date: _____

Inspector: _____

A. STORMWATER OUTFALL

1. Time of observation = _____ am/pm

2. Weather: Temperature = _____ °F

   Precipitation = _____

3. Estimated outfall flow = _____gpm

4. Turbidity (circle):

   1 (clear) 2 3 4 5 6 7 8 9 10 (opaque)

5. Weekly water sample collected today? yes no

B. RIVER FRONTAGE

	Morning Inspection	Afternoon Inspection
1. Time =	_____ a.m.	_____ p.m.
2. Temperature =	_____ °F	_____ °F
Precipitation =	_____ inches	_____ inches
3. River level =	_____ feet	_____ feet
4. Water surface = (circle)	1 2 3 4 5 (calm)	1 2 3 4 5 (calm)

5. Oil observation

   a. Circle areas on map where oil bubbles are observed.

   b. Note within circle the number of bubbles present.

   c. Also note approximate size of individual bubbles.

McCormick & Baxter
Portland Plant

DAILY INSPECTION SHEET
HAZARDOUS WASTE SYSTEM

Date _____

Description	Code	Inspect	Time	Initial	Observation Made	Date of Repair	Nature of Repair
Drum storage facility		Leaks from drums					
Boiler room sump		Start and stop the pumps by manually activating the level switches					
Tank Farm		Spills					
Dust Control							
Evaporator		Leaks, pipe, pumps, valves, corrosion, walls					
Oil Water Separators		o Level					

McCormick & Baxter
Portland Plant

WEEKLY INSPECTION SHEET
HAZARDOUS WASTE SYSTEM

Date _____

Description	Code	Inspect	Time	Initial	Observation Made	Date of Repair	Nature of Repair
Boiler Room Sump and Pump:							
- Pump		o Excessive noise and/or vibration of pump					
		o Loose fittings and pump support					
- Piping		o Leaks on fittings and piping connected to the pump					
		o Adequate support of piping					
		o Noticeable damage or corrosion on the piping and walls					
Evaporator		o Excessive noise and/or vibration of pump					
		o Loose fittings and pump support					
		o Leaks on fittings and piping connected to the pump					
		o Adequate support of piping					
		o Noticeable damage or corrosion on the piping and walls					

McCormick & Baxter
Portland Plant

WEEKLY INSPECTION SHEET
HAZARDOUS WASTE SYSTEM

Date _____

Item	Description	Code	Inspect	Time	Initial	Observation Made	Date of Repair	Nature of Repair
	Round Vent Tank		o Any damage to the tank wall					
			o Leaks					
			o Noticeable corrosion					
			o Missing parts					
	Drum storage area		o Hazardous waste signs					
	- Drums		o Leaks from drums					
			o Waste drums are properly labeled					
			o Noncompatible wastes are stored separately					
	- Area pavement, dike, and fence		o Cracks and holes in the pavement and dike					
			o Errosion of the dike and pavement					
			o Any spillage of wastes on the area					
			o Proper warning labels on the fence around the area					
			o Any holes or torn parts in the fence					
	Penta Mixing and Storage Shed		o Chemicals on ground					
			o Spills					
			o Broken bags					

McCormick & Baxter
Portland Plant

WEEKLY INSPECTION SHEET
HAZARDOUS WASTE SYSTEM

Date _____

Item	Description	Code	Inspect	Time	Initial	Observation Made	Date of Repair	Nature of Repair
c.	Paint Shed		o Chemicals on ground o Spills o Broken Bags					
	Storage tanks: - Tank farm (Tanks 1, 2,3,4,5,6,7,8,9,10 - Fuel oil tank - Diesel tank - Ammonia tank - Arsenic acid tank - Work tanks		o Any leaks from valves, fittings, and piping on and around the tanks o Any cracks and holes in the pavement and dike around the tanks					
	Maintenance shop cleaning solutions and oil and grease		o Buckets left out o Spills					

McCormick & Baxter
Portland Plant

Date _____

Item	Description	Code	Inspect	Time	Initial	Observation Made	Date of Repair	Nature of Repair
9	Safety Equipment							
	- Fire extinguishers							
	. Boiler room 2		o If number of extinguisher(s) specified exists in the area					
	. Lab 1							
	. Lumber stacker 1							
	. Welding Shop 2							
	. Maintenance Shop 1 plus spares		o Check dial reading					
	. Each Pettibone & Hyster has one							
	. Tie Plant 1							
	. Framing Shed 1							
	. Pole Peeler 1							
	Safety shower and eye wash @:							
	. Drum storage area		o Operate eye wash and shower					
			o Noticeable corrosion in the piping					
	- Siren for Emergency		Activate momentarily and test if operational					
	- Whistle in the boiler room		o Activate momentarily and test if operational					
	- First aid kit in:		o Enough supply of necessary first aid material					
	. Lab (1)							
	. Boiler room (1)							

McCormick & Baxter
Portland Plant

WEEKLY INSPECTION SHEET
HAZARDOUS WASTE SYSTEM

Date _____

Item	Description	Code	Inspect	Time	Initial	Observation Made	Date of Repair	Nature of Repair
6	Hazardous Waste Safety Equipment - MSA 401 selfcontained breathing apparatus (B) (2) - White cotton coveralls (6) - Neoprene boots with steel tow and shank (4) - PVC Gloves (24) - Latex gloves (24) - Hardhat (4 extra) - Respirators and cartridges in boiler room (8) - Rain Gear - Chemtex (6 pair) - Rain Gear - Protex (6 pair) - Glasses (6) - Goggles (6) - Hardhat with face shield (4) - Life-line (2) - Butyl rubber coat apron (4) - Butyl rubber apron, ankle length with sleeves (4) - Butyl rubber or neoprene gloves (12)		o Adequate supplies o Make sure encapsulating suits and respirators are operational					

McCormick & Baxter
Portland Plant

WEEKLY INSPECTION SHEET
HAZARDOUS WASTE SYSTEM

Date _____

Description	Code	Inspect	Time	Initial	Observation Made	Date of Repair	Nature of Repair
- Chemical-resistant coveralls TYVEC (48)							
- Polyethylene coated coveralls (25)							
Other Spill Cleanup Equipment & Materials							
- Front-end loader		o Check for availability					
- Four forklifts							
- Four "Pettibone" log loaders		o Check for proper operation (where applicable)					
- Five shovels, 3 brooms							
- Five cubic yards of bulk absorption material							
- Fifty empty 30 and 55 gallon drums							
- One electric ½-hp submersible pump on-site							
- One diesel, 5-hp self-priming pump (rental)							
Containers - Plastic bags - Drip pans - Buckets							
Tools - Safety drop cord light - Nylon cord to tie-off tools - Gasket cutting set							
Vapor control - Portable fan							
Sorbents - Rags (cotton or wool)							

McCormick & Baxter
Portland Plant

WEEKLY INSPECTION SHEET
HAZARDOUS WASTE SYSTEM

Date _____

Item	Description	Code	Inspect	Time	Initial	Observation Made	Date of Repair	Nature of Repair
12	Fire Equipment		o Hoses o Hydrants					

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE
SEATTLE, WA 98101

TARGET SHEET

The following document was not imaged.
This is due to the Original being:

X	Oversized
	CD Rom
	Computer Disk
	Video Tape
	Other:

**A copy of the document may be requested from the Superfund Records Center.

Document Information

Document ID #:	1427874
File #:	MCBSF 1.2 v.1
Site Name:	McCormick & Baxter Creosoting

Map of Site